

Twin10G™ SFP28 PCIe® Card

Quick Start Guide



Support Note: This document was up to date at the time of printing. Please check the Sonnet website for the latest documentation.

1. Go to www.sonnettech.com/support/kb/kb.php
2. Navigate to and click the Twin10G SFP28 PCIe Card link.
3. Click the Manual link.
4. Click the Twin10G SFP28 PCIe Card Quick Start Guide [English] link, and then check the Document Version information. If the version listed is later than this document (**revision A**), click the Download Now button for the latest version.



For
Windows



Introduction, Compatibility, System Requirements, Driver Information, and System Preparation

Introduction

Congratulations on your purchase! Twin10G SFP28 PCIe Card is a 10 Gigabit Ethernet (10GbE) adapter that enables you to connect your computer to 10GbE infrastructure. macOS®, Windows®, Linux®, and Thunderbolt™ compatible, this card also works in Thunderbolt-to-PCIe card expansion systems.

You Should Have

The following items should be included in your product package:

- One Twin10G SFP PCIe Card
- One additional mounting bracket
- Two SFP28 transceivers (installed)
- Quick start guide

The following items may be required for installation:

- Medium Phillips screwdriver

Mac® Compatibility

- Mac Pro® 14,8 (2023)
- Mac Pro 7,1 (2019)
- macOS 13.2+

Windows Compatibility

- Computer with low-profile or full-height x8 PCIe card slot (PCIe 3.0 or 4.0 slot preferred)
- Windows 11, 10
- Windows Server 2022, 2019

Linux Compatibility

- Computer with available low-profile or full-height x8 PCIe card slot (PCIe 3.0 or 4.0 slot preferred)
- Linux Kernel 5.4+

Thunderbolt Compatibility

- Mac computer (M series and Intel) with Thunderbolt port via a Thunderbolt to PCIe card expansion system
- Windows computer with a Thunderbolt 5, 4, or 3 port via a Thunderbolt to PCIe card expansion system
- Linux computer with a Thunderbolt 5, 4, or 3 port via a Thunderbolt to PCIe card expansion system

System Requirements

Twin10G SFP28 PCIe Card requires the following to operate:

- OM2, OM3 or OM4 LC/LC multimode fiber optic cables (sold separately).

Driver Information—macOS

The driver that enables Twin10G SFP28 PCIe Card to work with Mac computers must be downloaded from Sonnet's Website and installed *prior* to installing the Twin10G card; instructions follow.

Driver Information—Windows

Although a driver that enables Twin10G SFP28 PCIe Card to work with Windows computers is already present in supported Windows operating systems, you should download the latest driver through the Sonnet Website and install it *prior* to installing the Twin10G card; instructions follow.

Driver and Configuration Information—Linux

The drivers that enable Twin10G SFP28 PCIe Card to work with Linux are installed as part of the Linux Kernel 5.4 and later.

The steps necessary to configure the Sonnet card with your computer, including teaming, may vary based on the version of Linux running. Sonnet recommends using whatever method or tools you would normally use for configuring any onboard ports.

Introduction, Compatibility, System Requirements, Driver Information, and System Preparation

Preparing to Use the Card With a Mac Computer

Introduction

Starting with macOS 12, Apple introduced a new system for device drivers. These new drivers, which run in user space instead of kernel space, are called Dexts (DriverKit Extensions). With the new technology came a new way of installing these drivers; they are installed from an application, which must be located in the main Applications folder.

The Sonnet Twin10G installer uses a .dmg disk image to carry the Sonnet Network application, which is easily copied to the Applications folder and run from there.

Computer Preparation Overview

To enable Twin10G SFP28 PCIe Card to work with your system, you will do the following:

1. Update your computer to the latest version of macOS; version 13.2 or later is required.
2. Download and install the Twin10G driver installer application (instructions follow); **do not install the card into your computer until these steps are completed.**
3. Install the Twin10G card into your computer or Thunderbolt expansion system, connect the card to a switch or storage system, and then power on the computer (instructions follow).
4. Configure the card through the System Settings' Network control panel (instructions follow).

Preparing to Use the Card With a Windows Computer

To enable Twin10G SFP28 PCIe Card to work with your system, you will do the following:

1. Update Windows if necessary; you must use Windows 11, Windows 10 (64-bit Edition Version 2004 or newer), Windows Server 2022, or Windows Server 2019. Type *winver* in the search bar and click enter to check the version number.
2. Download and install the Twin10G drivers.
3. Install the Twin10G card into your computer or Thunderbolt expansion system, connect the card to a switch or storage system, and then power on the computer (instructions follow).
4. Configure the card through Windows Device Manager (instructions follow).

Preparing to Use the Card With a Linux Computer

To enable Twin10G SFP28 PCIe Card to work with your system, you will do the following:

1. If necessary, download and install Linux Kernel 5.4 or later.
2. Install the Twin10G card into your computer or Thunderbolt expansion system, connect the card to a switch or storage system, and then power on the computer.
3. Configure the card using the methods or tools you would normally use for configuring onboard ports.

Driver Download/Installation and Card Installation Steps

Driver Download/Installation Steps—macOS 13 and 14 Users

This section describes the download and installation of the driver required to support the Twin10G card installed into your Mac computer running macOS 13 or 14. See the next column for installation steps if your computer is running macOS 15.



Support Note: Do not install the Twin10G card into your computer until the driver has been installed as described in this section.

1. Launch a web browser and go to <https://www.sonnettech.com/support/kb/kb.php>.
2. Navigate to and click the Twin10G SFP28 PCIe Card link.
3. On the Twin10G SFP28 PCIe Card page, click the Driver link, and then click the arrow next to TWIN25G/TWIN10G SFP28 Software [macOS]. After reading the information, click the Download Now button; the file will be downloaded.
4. Locate and double-click the .dmg file you downloaded to open it; a new window will appear. Copy the Sonnet Network application to your computer's Applications folder by dragging it onto the Applications shortcut icon in the installer window.
5. Double-click the Applications shortcut icon to open the Applications folder on your computer.
6. Double-click Sonnet Network.app; a popup window will appear stating Sonnet Network is an app downloaded from the internet. Click Open; the Sonnet Network application will open.
7. In the *Sonnet Network* window, click Enable; this only has to be done once (the application no longer needs to run afterwards). A dialog window will appear.



WARNING: Do NOT delete the Sonnet Network application! Doing so would remove the Twin10G card's driver.

8. Click Open System Settings, NOT the highlighted OK button; this will open System Settings > Security & Privacy.
9. Under Security, make sure "App Store and identified developers" is selected. Beneath that, note that the Sonnet Network software was blocked, click Allow, and then reboot your computer; the driver will be installed.
10. Skip to Card Installation Steps—All Users on the next page.

Driver Download/Installation Steps—macOS 15 (Sequoia) Users

This section describes the download and installation of the driver required to support the Twin10G card installed into your Mac computer running macOS 15.



Support Note: Do not install the Twin10G card into your computer until the driver has been installed as described in this section.

1. Launch a web browser and go to <https://www.sonnettech.com/support/kb/kb.php>.
2. Navigate to and click the Twin10G SFP28 PCIe Card link.
3. On the Twin10G SFP28 PCIe Card page, click the Driver link, and then click the arrow next to TWIN25G/TWIN10G SFP28 Software [macOS]. After reading the information, click the Download Now button; the file will be downloaded.
4. Locate and double-click the .dmg file you downloaded to open it; a new window will appear. Copy the Sonnet Network application to your computer's Applications folder by dragging it onto the Applications shortcut icon in the installer window.
5. Double-click the Applications shortcut icon to open the Applications folder on your computer.
6. Double-click Sonnet Network.app; a popup window will appear stating Sonnet Network is an app downloaded from the internet. Click Open; the Sonnet Network application will open.
7. In the *Sonnet Network* window, click Enable; this only has to be done once (the application no longer needs to run afterwards). A dialog window will appear.



WARNING: Do NOT delete the Sonnet Network application! Doing so would remove the Twin10G card's driver.

8. Click Open System Settings, NOT the highlighted OK button; this will open System Settings > Login Items & Extensions.
9. When the Driver Extensions window appears, click the toggle switch for Sonnet Network to On, and then click Done.
10. When the System Extension popup appears, enter the admin password, and then click OK.
11. In the Driver Extension popup, click Done, and then back in the Sonnet Network Installer Window, click Quit.
12. Reboot your computer; the driver will be installed.
13. Skip to Card Installation Steps—All Users on the next page.

Driver Download/Installation and Card Installation Steps

Driver Download/Installation Steps—Windows Users

This section describes the download and installation of the latest driver required to support Twin10G SFP28 PCIe Card installed into your Windows computer.



Support Note: Do not install the Twin10G card into your computer until the driver has been installed as described in this section.

1. Launch a web browser and go to www.sonnettech.com/support/kb/kb.php
2. Navigate to and click the Twin10G SFP28 PCIe Card link.
3. On the Twin10G SFP28 PCIe Card page, click the Driver link, and then click the Download Now button next to the TWIN25G/TWIN10G SFP28 Software [Windows] link; a new window or tab will open.
4. On the *MLNX_OFED for Windows - WinOF / WinOF-2* page, click the WinOF-2 Download tab to open the WinOF-2 Download Center box, and then select the following:
 - the latest release
 - Windows Server or Windows Client
 - your computer's OS (Distribution) version.In the Download/Documentation column, click the WinOF Driver link; the file will be downloaded.
5. Locate the .exe file you downloaded and then double-click it to launch the driver installer.
6. Follow the on-screen instructions to complete the driver installation.
7. After the driver installation is complete, restart your computer; you may now install the Twin10G card into your computer.

Card Installation Steps—All Users

1. Shut down your computer or expansion chassis, disconnect its power cable, and then open it to access the expansion card area (PCI Express slots); refer to your computer's user manual for specific information.
2. Locate an available x8 or x16 PCIe slot and remove its access cover if necessary.
3. Install the Sonnet card into the slot; make sure the card is firmly seated and secured.
4. Close your computer or expansion chassis.
5. Reconnect the computer's or expansion chassis' power cable.
6. Connect cable(s) between transceiver(s) on the Twin10G card and the switch or storage device.



Support Note: Unless your setup requires connection redundancy (and your switch or storage system supports it), connecting the Twin10G card to a switch or storage system requires only a single SFP28 transceiver plus appropriate fiber optical cable. You may potentially install the second included transceiver in your switch or storage system.

Verification and Configuration Steps

Basic Configuration Steps—Mac Users

Listed below are the basic steps necessary to configure the Twin10G card to achieve maximum performance. Windows users should skip to the next page.

1. With the Twin10G card connected to 10GbE infrastructure (and everything powered on), open System Settings, and then click Network.
2. In the System Settings Network panel, click one of the Twin10G card's ports (identified as PCIe Ethernet Slot x and PCIe Ethernet Slot x, Port 1 or 2), and then click the arrow to the right (Figure 1).

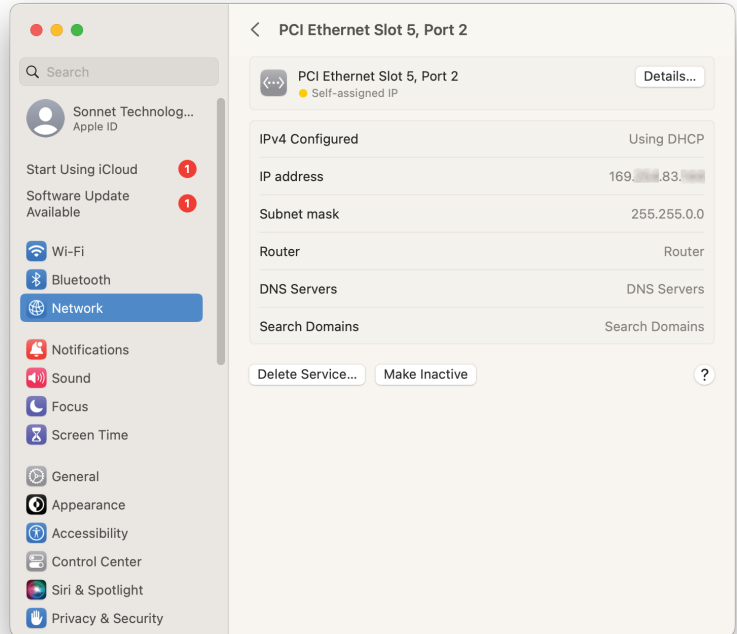


Figure 1

3. In the Details panel, click Hardware. From the Configure drop-down menu, select "Manually". In the Speed drop-down menu, choose autoselect. In the Duplex drop-down menu, select "full-duplex, flow control" (not "full duplex"). In the MTU drop-down menu, select "Jumbo (9000)" (Figure 2).



Support Notes: If you connect the Twin10G card to a network switch, you **MUST** set the speed to **Autoselect**; otherwise the link will not be established.

In order to realize maximum performance, every network switch and storage system to which the Twin10G card is connected must be configured to have jumbo frames enabled.

4. When you've completed changing the settings for the port, click OK.
5. Repeat steps 2–4 for the other port if necessary.

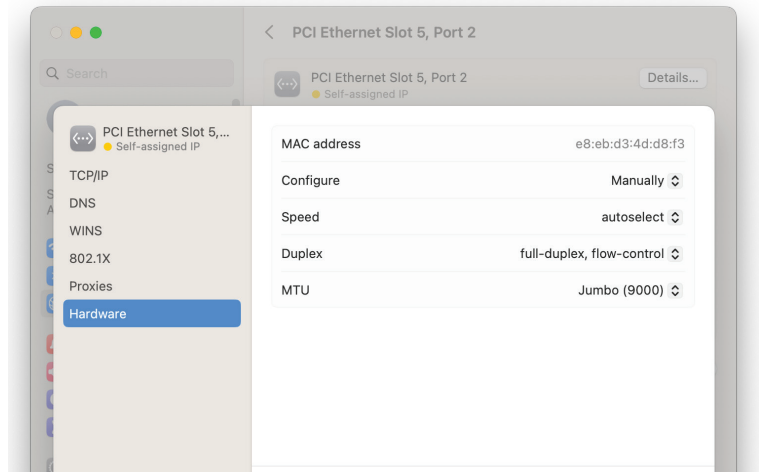


Figure 2

Verification and Configuration Steps

Basic Configuration Steps—Windows Users

Listed below are the basic steps necessary to configure the Twin10G card for use with your computer.

1. With the Twin10G card connected to 10GbE infrastructure (and everything powered on), open Device Manager. Click the arrow next to Network adapters to expand the list, and then double-click one of the Sonnet card's ports which are listed as Mellanox ConnectX... (Figure 3).

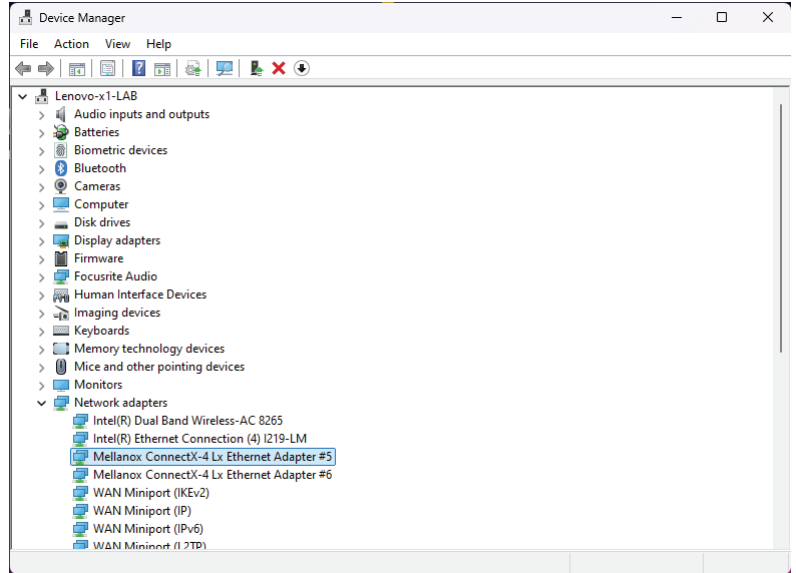


Figure 3

2. In the *Mellanox ConnectX... Properties* window, click the Information tab (Figure 4). Verify that the value for the link speed setting is 10.0 Gbps/Full Duplex.

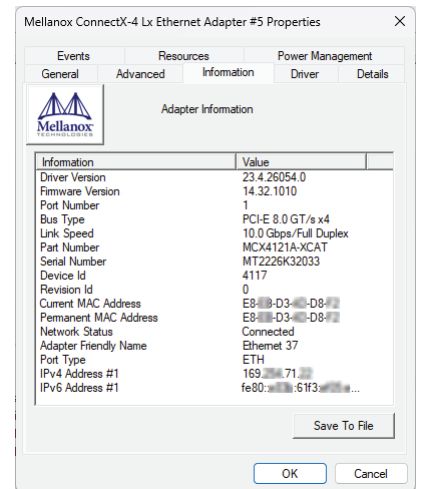


Figure 4

Support Note: In order to realize maximum performance, every network switch and storage system to which the Twin10G card is connected must be configured to have jumbo frames enabled.

3. In the *Mellanox ConnectX... Properties* window, click the Advanced tab, and then from the Property list, click Jumbo Packet (Figure 5). Verify that the value for the port is set to 9014.
4. Repeat steps 1–3 for the other port if necessary.

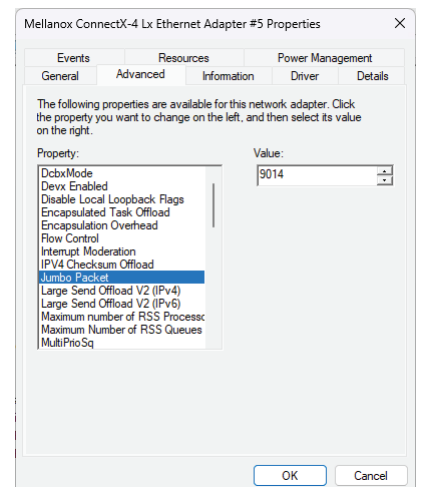


Figure 5

Support Information

Contacting Customer Service

The Sonnet Web site located at www.sonnettech.com has the most current support information and technical updates. Before contacting Customer Service, please check our Web site for the latest updates and online support files, and check this Quick Start Guide for helpful information.

Email support requests generally receive the fastest responses, and are usually processed within a 24-hour period during normal business hours, excluding holidays. When you contact Customer Service, have the following information available so the customer service staff can better assist you:

- Product name
- Computer model
- OS version
- Driver software version
- A System Report (macOS) or a Microsoft System Information MSINFO32 (Windows) report (Windows), along with a description of the issue(s) you are encountering with your device

If further assistance is needed, please contact **Sonnet Customer Service** at:

E-mail: support@sonnettech.com

Tel: 1-949-472-2772

(Monday–Friday, 9 a.m.–5 p.m. Pacific Time, excluding holidays)

Japan Customers

Contact Sonnet Customer Service Japan at:

E-mail: jp.support@sonnettech.com